

U.S. Department of Energy
STATE PLAN/MASTER FILE WORKSHEET

Grant Number: R530683, State: MO, Program Year: 2006

This worksheet should be completed as specified in Section III of the Weatherization Assistance Program
Application Package.

III.1 Eligible Population

III.1.1 General Description

Definition of income used to determine eligibility:

The State has set income guidelines at 150% of poverty level to comply with the federal WAP regulations. The annual revision of poverty income guidelines are published in the Federal Register in February or March. The State will issue a letter to each Subgrantee as the revisions are made available.

Procedures to determine that units weatherized have eligibility documentation:

No dwelling unit may be weatherized without documentation that the dwelling unit is an eligible unit. All household income must be calculated per DOE requirements, and income and home ownership documented.

Definition of children: Below age 19

Recommend tribal organization(s) be treated as local applicant? No

If YES, Recommendation: If NO, statement that assistance to low-income tribe members and other low-income persons is equal:

Subgrantees will designate a Native American service priority target.

III.1.2 Selection of Areas to Be Served

Current service areas are based on the historic geographic boundaries of the State's Community Action Agencies (CAAs). This is because most of the Subgrantees are CAAs and, as such, the boundaries are their operational boundaries and facilitates the client outreach process for each Subgrantee.

III.1.3 Priorities

Priority will be given to low-income elderly, physically disadvantaged, families with children, households that are determined to be high-energy users and households that have a high-energy burden.

The Missouri Low-Income Weatherization Assistance Program Operations Manual details client selection criteria including program priorities.

III.2 Climatic Conditions

The combined total of both heating and cooling degree days ranges from 7938 in the northwest to 4943 in the southeast. Heating degree days range from a high of 6228 to a low of 4008. Cooling degree days range from a high of 1710 to a low of 935 for the 30-year National Oceanic and Atmospheric Administration (NOAA) average.

Weatherization Subgrantee
Central Missouri Community Action
Community Services, Inc.
Delta Area Economic Opportunity Corp
Department of Neighborhood & Community Services
East Missouri Action Agency
Economic Security Corp.
Green Hills Community Action Agency
Jefferson-Franklin Community Action Corporation
Missouri Ozarks Community Action
Missouri Valley Community Action Agency
North East Community Action Corporation

Weather Station
Columbia
Kansas City
Memphis, TN
Kansas City
St. Louis
Tulsa, OK
Kansas City
St. Louis
Springfield
Columbia
Springfield, IL

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Northeast Missouri Community Action Agency
Ozark Action, Inc.
Ozarks Area Community Action Corporation
Community Action Agency of St. Louis County
South Central Missouri Community Action Agency
Urban League of Metropolitan St. Louis
West Central Missouri Community Action Agency

Columbia
Springfield
Springfield
St. Louis
Springfield
St. Louis
Columbia

III.3 Weatherization Work

III.3.1 Type of Work to Be Done

The state is committed to providing quality weatherization service on each client's home. With limited funds available, it is very important that funds be used to provide services which will result in the greatest savings per dollar. The state believes it is essential to use a process that correctly identifies energy conservation measures (ECMs) that provide the greatest chance to reduce energy consumption, maximize savings, and increase client comfort. It is also important that the selection of ECMs does not compromise the health and safety of the client. The program operations manual outlines our procedures for work priorities. Types of work to be done:

Air leakage reduction
Attic insulation
Wall insulation
Foundation and floor insulation
Duct insulation
Heating system clean and tunes, repairs, and replacements
Health and safety

III.3.2 Energy Audit Procedures

The energy audit procedures currently used in the Missouri WAP are of a comprehensive, holistic nature consisting of common sense, advanced diagnostic and assessment techniques, interior and exterior visual inspections, client interviews, and data collection. Additionally, the audit procedures employ the use of a computerized audit program as a tool to aid in selecting the most cost-effective measures.

The state has adopted the National Energy Audit (NEAT) developed by Oak Ridge National Laboratory (ORNL). The state began phasing in the NEAT audit on July 1, 1993. NEAT was used on a statewide basis beginning July 1, 1994. The use of NEAT audit procedures allows a subgrantee to waive the 60/40 cost requirement. However, the NEAT audit may be used only on single-family, site-built units and can accommodate some multi-family dwelling structures (1-4 units). A subgrantee that undertakes weatherization of multi-family structures which cannot be addressed adequately with the NEAT audit will be required to have a U.S. DOE and DNR/EC approved audit process specifying appropriate and cost-effective measures. DOE has not released the multi-family audit to the states. The Energy Center has requested and received approval for a priority system for weatherizing mobile homes. It was determined that the MHEA did not function properly in audited mobile homes. The NEAT audit re-approval was obtained on 12/10/2003.

<u>Unit Types</u>	<u>Audit Procedures and Dates Most Recently Approved by DOE</u>
Single-family	NEAT audit approved and used statewide on July 1, 1994. NEAT audit was re-approved December 10, 2003.
Multi-family	If applicable, will be weatherized using the NEAT audit. If not able to use the NEAT, will be required to have a USDOE and DNR/EC approved audit process specifying appropriate and cost-effective measures.
Mobile Home	A site specific energy audit is performed on each mobile home using the Mobile Home Weatherization Measures - Priority System. Health and safety issues and incidental repairs are addressed prior to energy conservation measures.

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III.3.3 Final Inspection

No dwelling unit may be reported to DOE as completed until all weatherization material is installed and a final inspection is performed.

III.3.4 Assessment of Effectiveness

The "DNR General Terms and Conditions", Scope of Services, and Subgrant Assistance Agreement detail criteria deemed necessary for a Subgrantee to be considered in contract compliance with the State. An annual performance evaluation will be conducted.

Annually subgrantee agencies are evaluated to determine actual homes weatherized versus planned goals. Expenditures are reviewed for planned versus actual. Expenditures are reviewed for compliance with state policy of no more than 15% carryover. Funds exceeding the 15% carryover limitation will be disbursed to other subgrantee agencies to ensure statewide productivity. The annual review also evaluates both housing quality and procedural monitoring findings from on-site reviews.

The Missouri Low-Income Weatherization Assistance Program Operations Manual details terms for probation and procedures to terminate a weatherization subgrantee.

The Energy Center will use funds to commission a program evaluation of the LIWAP operation in Missouri.

III.4 Health and Safety

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Health and Safety Plan - Health and safety issues have become an increasingly expensive part of the Weatherization Assistance Program (WAP) as knowledge about the hazards within dwellings has increased over the past decade. When a health or safety hazard is detected, it is the policy of the Department of Natural Resources Energy Center (DNR/EC) to address it. This policy is tempered by recognition that the primary goal of the WAP is energy conservation and funds should focus on conservation goals. DNR/EC intends to balance these competing issues by routinely identifying the most important hazards and specifying measures for their abatement.

- A. Grantee Health and Safety** - Funds provided under 440.18 (c) (15) are to remedy health and safety hazards, which are necessary before, or because of, the installation of weatherization materials. These funds are to be expended by subgrantees in direct weatherization activities. Costs related to grantee health and safety should be charged to the state administrative or training and technical assistance cost category, as applicable.
- B. Crew and/or Contractor Health and Safety** - A subgrantee must comply with Occupational Safety and Health Administration (OSHA) requirements in all weatherization activities that involve staff personnel. Costs for subgrantees to comply with OSHA requirements may be charged under 440.18 as health and safety, tools and equipment, incidental repairs, etc. The cost category selected should be charged consistently throughout the state (from agency to agency) for the same activity.

When contractors are employed by subgrantees, those contractors also are required to comply with OSHA. The contractor costs to comply with OSHA, as applicable, are part of the bid price. Work that threatens anyone's health or safety may not be undertaken. Related costs for subgrantees to comply with OSHA requirements may be charged as tools and equipment. Subgrantees are responsible for purchasing all OSHA required tools and equipment and are required to immediately replace any defective tool or equipment.

Because of the wide range of activities involved in weatherizing a house, ensuring crew health and safety requires a broad knowledge of the appropriate OSHA requirements. Some of these requirements include, but are not limited to: respirator protection, techniques for safely lifting heavy objects, electrical equipment safety, ladder safety, and general worker protection. OSHA standards should be consulted for further details. Other useful information includes Material Safety Data Sheets that identify potential health risks and describe the proper use, handling, and storage of a wide variety of materials, including some common weatherization materials. They also suggest personal protective equipment and address first aid measures.

- C. Client Health and Safety** - Subgrantees are required to take all reasonable precautions against performing work on homes that will subject workers or clients to health and safety risks. Before beginning work on the residence, the agency must take into consideration the health concerns of each occupant, the condition of the dwelling, and the possible effect of work to be performed on any particular health or medical condition of the occupants. When a person's health is fragile and/or the work activities would constitute a health or safety hazard, the occupants at risk will be required to leave the home during these work activities.

Weatherization services can be provided in a manner that minimizes the risk to workers and clients. Although the Weatherization Assistance Program does not provide all the solutions, awareness of potential hazards is essential to providing quality services. A list of common hazards is discussed in Section D. Other energy-related hazards should be considered on a case-by-case basis.

During the energy audit, each subgrantee must be aware of conditions regarding health and safety. Visual and diagnostic inspections on every dwelling will provide a basis for identifying these concerns. Required procedures in handling health-and-safety issues include: (1) pre- and post-blower door tests, (2) a mechanical systems audit and (3) an examination of the condition of the electrical wiring.

- D. Potential Hazard Considerations** - DNR/EC recognizes the following list of hazards.
1. **Biologicals:** Removal of mold, odors, viruses, bacteria and unsanitary conditions is not a WAP responsibility. Local agencies should ensure that regular weatherization work is performed in a manner that doesn't contribute to mold problems and when the work is performed properly, can alleviate many mold conditions. If a subgrantee determines that a dwelling has an excessive moisture problem, mitigation may be possible if the cause can be eliminated with relatively minor expense. An example would be a broken downspout directing water runoff into a crawl space. Work that threatens the health or safety of WAP crews should not be undertaken. If a mold condition is discovered during the initial inspection of the home by the energy auditor that cannot be adequately addressed by the weatherization crew, then the unit should be referred to the appropriate public or non-profit agency for remedial action.
All homes should be checked for previous or existing moisture problems. Repair of moisture problems that might: 1) result in health problems for the client, 2) damage the structure over the short- or long-term, or 3) diminish the

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- effectiveness of the weatherization measures, must be done before the weatherization job is completed. The moisture assessment section of the Auditor Field Form must be filled out along with special attention to the following:
- a) Evidence of condensation on windows and walls indicated by stains or mold.
 - b) Standing water, open sumps, open wells, dirt floors, water stains, etc. in basements. Also, check to see if firewood is stored in the basement and whether laundry is hung to dry during the winter months.
 - c) Leaking supply or waste pipes.
 - d) Attic roof sheathing shows signs of mold or mildew.
 - e) Identification of existing or potential moisture problems shall be documented in the client file.
 - f) If existing moisture problems are found, no air sealing should be done unless the source of the moisture can be substantially reduced or effective mechanical ventilation can be added to cost-effectively remove the moisture. In some cases, air sealing must be done in order to reduce the source of the moisture (i.e. sealing off crawlspaces from the house, or sealing attic leakage to eliminate condensation on the roof deck).
 - g) Because air tightening may cause an increase in relative humidity, client education should include information about moisture problems and possible solutions.
 - h) In the course of weatherization, any low-cost measures that help reduce the humidity levels in the house should be installed. Examples of these activities are venting dryers, venting existing bath or kitchen exhaust fans or installing moisture barriers on dirt floors.
 - i) A dwelling that has a CFM50 greater than the Building Airflow Standard (BAS) is no guarantee that moisture will not be a problem in that home.
2. Combustion Appliances and Combustion Gases: DNR/EC will require each subgrantee to perform the following as part of the initial energy audit of each dwelling during the current Program Year:
- a) Test vented and unvented combustion appliances for carbon monoxide (CO) levels.
 - b) Inspect furnace and water heater installations for sufficient combustion air (Refer to NFPA 54, National Fuel Gas Code). If the initial energy audit reveals a need for introducing more combustion air, it should be addressed as part of the weatherization process.
 - c) Inspect and test heating equipment for a sound heat exchanger. Furnaces and other space-heating appliances that have a cracked heat exchanger are health and safety hazards that must be addressed and mitigated. Otherwise, the house must be rejected. Such appliances are also usually degraded to the point that their efficiency is greatly reduced. Replacements will be limited to owner-occupied units. Rental units that have an unsafe heating system will not be weatherized until the landlord has installed an approved, safely operating heating system. Replacements will be limited to natural gas, propane and oil-fired systems.
 - d) Inspect and test heating equipment and the water heater for proper flue/vent draft. Venting must be installed in accordance with national, state, and local codes.
 - e) Inspect the water heater for health and safety hazards. Water heaters that cannot be economically repaired may be replaced as a health and safety measure. Replacements will be limited to owner-occupied units. Rental units that have an unsafe water heater will not be weatherized until the landlord has installed an approved, safely operating water heater. Replacement is limited to natural gas, propane and oil-fired systems.
 - f) Test fuel lines for leaks.
 - g) Perform a post-blower door test to determine if the dwelling is within the ventilation guidelines. DNR/EC expects a subgrantee to be conscious of the changes in the dwellings caused by air tightening, such as greater possibility for back drafting, and less removal of indoor pollutants by air movement. Air leakage work with the potential to over-tighten the dwelling should be implemented with caution so the home is not over-tightened.
3. Fire Hazards: Combustion appliances and their associated venting systems must be installed in accordance with national, state, and local codes. In addition, the home may be deferred for other remedies if an identified fire hazard cannot be corrected with DOE funds.
4. Existing Occupant Health Problems: A subgrantee should ask clients if they have any health conditions that will be aggravated by the work required to install energy conservation retrofits. Precautions must be taken if the client will be unduly affected by dust, the smell from caulking chemicals or other attributes of the retrofit work so as to contain that part of the process and minimize any adverse effects.
5. Indoor Air Quality:
- a. Asbestos: Asbestos abatement is normally beyond the scope of WAP work in Missouri. If a subgrantee determines that friable asbestos is present in a dwelling, a blower door test should not be performed. Asbestos issues will be referred to the appropriate State agency.
 - b. Radon: DNR/EC believes the potential in Missouri for exacerbating radon problems with weatherization work is rather low and does not plan to expend funds for radon testing or mitigation.

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- c. Formaldehyde and Volatile Organic Compounds: Subgrantees will be advised that some new carpets, wafer board and plywood can emit formaldehyde. This is not specifically a weatherization responsibility. However, if a client has recently installed a large amount of these materials, the subgrantee will be advised that a curing time is desirable before the dwelling is air-tightened, and care should be taken to avoid excessive air tightening in such dwellings. Volatile Organic Compounds (VOC's) are the solvents in some caulking compounds, paint and cleaning agents. Subgrantees are advised to be cautious about using such materials inside dwellings.
- 6. Lead - Lead Safe Weatherization (LSW) is a set of protocols to be used when disturbing surfaces that may have lead-based paint that will reduce and control the amount of lead dust and paint chips that are generated. The protocols involve setup and cleanup practices that contain the spread of the lead dust during Weatherization work and eliminate most traces of the lead dust and debris (generated from the weatherization activities) when the work is finished.
 - a. Lead Safe Weatherization - The following set of criteria may be used in determining if LSW would be performed by local weatherization agencies.
 - 1. The dwelling was constructed pre-1978.
 - 2. The dwelling has not been determined to be lead-based paint free.
 - 3. Either, the amount of disturbed lead-based painted surface exceeds two square feet per room of interior surface, twenty square feet of exterior surfaces, or 10% of a small component e.g., window; or the amount of lead-based paint dust that will be generated by the weatherization work exceeds the OSHA defined airborne levels for lead.
 - 4. Section 406 of the Residential Lead-Based Paint Hazard Act of 1992 applies to weatherization work. Under certain, fairly common circumstances, Section 406 requires weatherization providers to give a copy of the EPA booklet **"Protect Your Family from Lead in Your Home"** prior to the start of work. The rule also has a record-keeping requirement.
 - 5. Refer to the **"Lead-Safe Weatherization: A Training and Reference Manual for Weatherization Managers and Crews"** for reference material about lead safe work practices. The notebook was distributed to each agency.
 - b. Training - LSW training for Weatherization workers, both in-house and contractor, is critical to the protection of Weatherization clients and the workers themselves. EPA and HUD both offer one-day training courses in lead safe work practices. Crewmembers and contractors should have the training before they work on homes with lead paint where painted surfaces in those homes will be disturbed in the course of doing Weatherization measures. Crewmembers and contractors must be trained by February 10, 2003.
 - c. Lead Based Paint Disposal - Always collect, bag, and seal all waste at the work site and in the work area. Do not carry the waste to another room or another area before bagging and sealing. Store all waste in a secure container or dumpster until disposal. Avoid collecting bags of debris in work vehicles or in shops. Also, avoid transporting waste in an open truck. If this is the only method of transportation, cover the bed tightly with a tarp.
 - d. Deferral Policy - It may be prudent to defer certain Weatherization work in homes that have either tested positive or are assumed to have lead-based painted surfaces. Even if the home does contain lead-based paint, regular weatherization work that does not disturb painted surfaces and does not stir up lead-based paint laden dust residues can be done. The following steps are recommended:
 - 1. First, the subgrantee should assess the following factors:
 - a) Is agency prepared to work with lead based paint? (training, equipment, and insurance)
 - b) What is the condition of the painted surfaces in the house?
 - c) How will specific energy efficiency measures disturb painted surfaces? (will the disturbance generate dust in excess of OSHA minimums)
 - d) Will the cost of doing LSW be a large portion of the total cost, exceeding the amount allowed by state's health and safety plan?
 - 2. Second, based on above factors, weatherization agencies should determine whether to:
 - a) Proceed with all weatherization work, following LSW work practices.
 - b) Do some of the weatherization tasks and defer others.
 - c) Defer all of the weatherization work. Deferral would mean postponing the work until the weatherization agency is prepared to work with lead-based paint, or until another agency has corrected the problem. In cases where extensive LSW would be necessary, agencies are encourage to arrange with other organizations, which are funded to do lead paint hazard control, to perform some of the more costly activities, such as entrance testing or clearance testing. In areas where there are no organizations performing such work, weatherization agencies may choose to develop their own capabilities for lead-based paint hazard control work, but they may not use DOE Weatherization funds for this purpose.
 - e. Liability Issues - Agencies must either refer or defer weatherization work that will disturb surfaces that may contain lead-based paint, until they have insurance that will provide coverage for LSW work in situations involving

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- lead-based paint.
7. Building Structure: Building rehabilitation is beyond the scope of the Weatherization Assistance Program; however, program workers frequently encounter homes in poor structural condition. Dwellings whose structural integrity is in question should be referred to the Department of Housing and Urban Development. Weatherization services may need to be delayed until the dwelling can be made safe for crews and occupants. Incidental repairs necessary for the effective performance or preservation of weatherization materials are allowed. Examples of these limited repairs include sealing minor roof leaks to preserve new attic insulation and repairing water-damaged flooring as part of replacing a water heater.
 8. Electrical Issues:
A Subgrantee is expected to comply with all relevant local building codes and must conform to the electrical codes of political subdivisions within their service areas.
If serious electrical overloads are noted, the house should not be weatherized until the problem can be remedied. Subgrantee auditors and crews must be alert for electrical wiring problems, and must notify the owner and document findings in the client file. If the dwelling is owner-occupied, wiring repairs are allowed under health and safety not to exceed \$100 in materials and labor. Costs greater than \$100 must be placed under incidental repairs, and the entire job must be cost-tested with a Savings-to-Investment Ratio (SIR) of 1 or greater. If the dwelling is a rental, the landlord must make the necessary wiring repairs before weatherization services.
Older electric wiring, primarily knob-and-tube wiring, located in a wall cavity or exposed on an attic floor was intended by code to have free air movement that would cool the wire when it is carrying an electric current. Insulation installed around electrical wiring must be in compliance with local Codes. (Article 324 of the National Electrical Code addresses homes with Knob-And-Tube wiring).
 9. Refrigerant Issues: The replacement of air conditioners; approved since 1992, and the recently approved refrigerator replacements (Weatherization Program Notice 00-05) requires agencies to reclaim refrigerant per Clean Air Act 1990, section 608, as amended by 40 CFR 82, 5/14/93. The appliance vendor, demanufacturing center, or other entity recovering the refrigerant must possess EPA-approved section 608 type I or universal certification. Subgrantees should ensure they have appropriate protocols in place that comply with all standards relating to the disposal of the existing appliances.
 10. Other Code Compliance Issues: It is the subgrantees responsibility to ensure that weatherization-related work conform with applicable codes in jurisdictions where the work is being performed.
- E. **Deferral Policy** - Deferring work in a building may be necessary in some cases. This does not mean that assistance will never be available, but that work must be postponed until the problems can be resolved and/or alternative sources of help are found. Subgrantees, including crews and contractors, are expected to pursue reasonable options on behalf of the client, including referrals, and to use good judgment in dealing with difficult situations.

Subgrantees may want to develop guidelines and a standardized form for such situations. The form should include the client's name and address, dates of the audit/assessment and when the client was informed, a clear description of the problem, conditions under which weatherization could continue, the responsibility of all parties involved, and the client(s) signature(s) indicating that they understand and have been informed of their rights and options. Deferral conditions may include:

1. Rejection Due to Client's Refusal of WAP Services
Owners have the option to refuse certain services identified by the energy audit. Alternative services in lieu of identified cost-effective ECM's are not authorized because they would require the expenditure of funds inconsistent with U.S. DOE regulations. The work order and job file must document if the owner refuses a service or if a service cannot be completed because of health and safety reasons. If more than one major cost-effective ECM is refused, the home may be rejected.
2. Rejection Due to Dwelling Condition
 - a. The condition of the dwelling has deteriorated beyond repair, prohibiting application of major cost-effective ECM's.
 - b. The home was audited under NEAT, and the home requires substantial cost, which causes the cumulative SIR for the total job to fall below 1, and no major ECM can be deleted.
3. Rejection Due to Health and Safety of WAP Personnel or Client
 - a. The house has sewage or other sanitary problems (fleas, roaches, or other pests) that would further endanger the client and weatherization installers if the weatherization work were performed.
 - b. The dwelling has hazardous levels of carbon monoxide (CO) or other obvious indoor air-quality problems that cannot be corrected under routine WAP guidelines.
 - c. The building structure or its mechanical systems, including electrical and plumbing, are in such a state of disrepair that failure is imminent and the conditions cannot be resolved cost-effectively.
 - d. The dwelling's heating system may have loose or crumbling asbestos present.

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- e. The client has a fragile health condition that may prohibit the installation of insulation and other weatherization materials.
- f. The dwelling's measured air-tightness is below the ventilation guidelines, and application of normal WAP measures could cause further reductions.
- g. The house has been condemned or electrical, heating, plumbing, or other equipment has been "red tagged" by local or state building officials or utilities.
- h. Moisture problems are so severe they cannot be resolved under existing health and safety measures and with minor repairs.
- i. The client is uncooperative, abusive, or threatening to the crew, subcontractors, auditors, inspectors, or others who must work on or visit the house.
- j. The extent and condition of lead-based paint in the house would potentially create further health and safety hazards.
- k. In the judgement of the energy auditor, any condition exists which may endanger the health and/or safety of the work crew or subcontractor, the work should not proceed until the condition is corrected.

III.5 Rental Procedures

Rental units are weatherized under the Missouri WAP based on eligibility criteria established in the WAP State Plan. Eligible clients residing in rental units must have a signed landlord agreement before work can commence. The agreement outlines the following federal regulation criteria.

- Landlord agrees not to raise the rent on weatherized units for a period of one year after weatherization is complete without just cause.
- The tenant will not be evicted during this one year period without just cause.
- The landlord agrees that tenant(s) with utility inclusive rent will receive reduction in rent when utilities are reduced as a result of weatherization.
- Landlord shall not sell the premises unless the buyer agrees to assume the above obligation.

When work is performed on any type of rental unit, the State recognizes the potential for owners to receive undue enhancement benefits. Therefore, the State requires a Subgrantee to negotiate with an owner/landlord for co-participation match contribution. The amount of the contribution is left to the judgement of the Subgrantee.

Discretion should be used in negotiations with landlords having other types of rental property so as to not prohibit the client's chances for receiving weatherization.

The Subgrantee is cautioned in attempting large complexes since it could involve more than 10%-25% of an operating budget and adversely affect the ability to comply with client target goals.

The Subgrantee should document both positive and negative results of negotiations with landlords. Landlord contributions are considered as leveraged funds and should be reported to the State. Leveraged monies remain with the Subgrantee and are used to supplement State allocations. Landlord contributions may be either cash or cash value of weatherization material or labor.

The definition that will apply in Missouri for undue enhancement is any work performed on a dwelling that cannot be expected to directly result in energy savings or the preservation of agency-installed work related to energy savings.

In practical terms, this undue enhancement statement directs local subgrantees to perform only the enhancements that are based on the use of NEAT or Mobile Home Weatherization Measures - Priority System, as well as limiting repairs to the existing definition of incidental repairs. It is our position that as long as the local agency adheres to this guideline, no undue enhancement has been provided to an eligible dwelling.

Large multi-family buildings may be exempt from the requirement that income-eligible persons must occupy at least 66 percent of the units. As few as 50% of the units may be certified as eligible to qualify the building for weatherization services. This exception would apply only to those large multi-family buildings where investment of DOE funds would result in significant energy-efficiency improvements because of upgrades to equipment, energy systems, common space, or building shell. Local agencies will be better able to select the most cost-effective investments and enhance partnership efforts to leveraged funds and/or landlord contributions. However, for multi-family structures having five or more units, the State has determined the owner/landlord will be required to contribute 25% or more of the cost of the weatherization work.

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The key factor is to ensure the investment of DOE funds coupled with leveraged resources will result in significant energy savings. Subgrantees shall work closely with the state when undertaking large multi-family projects.

III.6 Program Management

III.6.1 Overview

The Missouri Department of Natural Resources' Energy Center administers the federal Low-Income Weatherization Assistance Program (LIWAP) statewide in Missouri. The Energy Center is organized into programs to provide measurable public benefit services to the citizens of the State of Missouri. The federal Low-Income Weatherization Assistance Program is managed under the Energy Center's Residential and Business Program.

Energy costs consume a far greater percentage of income in low-income households. Nationally, 14% of income is spent on residential energy in low-income households. Non-low-income households spend 3.5% of income for residential energy use.

The LIWAP reduces energy consumption and utility bills, keeps money in the local economy, has a positive impact on the household's promptness of utility payments and arrearages and reduces environmental pollution.

LIWAP Goals:

- Effective management of state and federal weatherization funds.
- Continuation of improved weatherization services. Increased energy-efficient housing, long-term reduction in utility bills and the comfort and safety of those served.
- Close working relationships with local weatherization agencies and others that are engaged in delivery of services to citizens of the State of Missouri.

III.6.2 Administrative Expenditure Limits

The State will authorize additional administrative funds up to 5% of an agency's budget for Subgrantees with USDOE grants of less than \$350,000. To request this higher amount, a Subgrantee must document actual administrative costs for WAP related issues and obtain prior approval. These costs will be monitored by the DNR/EC. The State will review each Subgrantee's budget and approve budgets which have justified WAP and agency administration costs.

III.6.3 Monitoring Approach

I. INTRODUCTION

The State of Missouri administers the Weatherization Assistance Program (WAP) through a supervised network of nonprofit Subgrantee agencies and local governments. As the granting agency for the statewide program, the Department of Natural Resources' Energy Center (DNR/EC) is responsible for monitoring the performance of each local WAP Subgrantee. Monitoring enables DNR/EC to determine if the residents of Missouri are being adequately served and if the WAP is being operated in compliance with the federal/state regulations and requirements. It also provides a feedback mechanism for suggested revisions to federal/state regulations and requirements. Information obtained by the monitoring effort is used to determine:

- Types of training and technical assistance required
- The effectiveness of each Subgrantee
- Proactive measures and problems in program operations
- Compliance with federal/state regulations and requirements

II. PROBLEM RESOLUTION: A variety of problems may arise during the course of a program year which may require different methods of resolution. Most problems can be placed into one of four categories.

1. Reporting

Reporting problems can generally be resolved using written communication explaining the problem. Where the problem is significant, an on-site visit will be made to gather the correct data and assist the Subgrantee in developing better reporting procedures.

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2. Housing Quality

A housing quality problem may be noticed during a field visit. Where significant problems are found in the workmanship on the home, the Subgrantee will be required to return to the home and correct the problem. Where a problem is found to be widespread, the Subgrantee will be required to notify DNR/EC of the resolution to the problem following procedures as defined in the Weatherization Program Operational Manual. This may include informal or formal staff training.

3. Safety

For safety issues, the Subgrantee will be required to correct all deficient work and to re-inspect all completed homes with similar concerns, providing routine updates to DNR/EC until all concerns are corrected. DNR/EC will re-inspect to verify that corrections have been made either through an on-site inspection or by telephone contact.

4. Fiscal Compliance

DNR/EC will take corrective action when a Subgrantee is not in compliance with the federal and state requirements. The action taken will depend upon the nature of the problem. If, for example, a problem involves a disallowed cost, the Subgrantee will be required to repay DNR/EC. However, if the error does not require repayment, DNR/EC will still require corrective action. DNR/EC will require the Subgrantee to provide documented evidence of corrective action(s) when DNR/EC has determined that the Subgrantee is not in compliance.

III. IMPROVEMENTS BASED ON PAST YEARS' EXPERIENCES

The Weatherization Assistance Program will continue to be upgraded to keep current with new accepted technology and improved ways of conducting business.

IV. QUALITY CONTROL MEASURES

A. Statewide Requirements

1. Inspections

Before reporting a completed home, DNR/EC requires all homes pass a final inspection by subgrantees. Expenses associated with a home that fails DNR/EC inspection may be withheld from the Subgrantee's subsequent reimbursement until the home passes.

2. Work Measures

The work measures are determined by a comprehensive audit procedure for site built homes and mobile homes. The audit prescribes a prioritized package of measures to be installed in conjunction with site-specific decisions made by the auditor. More detail is provided in the technical standards of the DNR/EC Weatherization Program Operational Manual.

B. Purchasing Controls

1. Materials Specifications 10 CFR 440 Appendix A (Revised)

Each Subgrantee is required to specify material standards in their bid documents. Materials are required to meet or exceed standards specified in the most current 10 CFR Part 440 Appendix A and the Missouri WAP material standards list. DNR/EC requires all materials have a long term life expectancy, if applicable. Missouri Subgrantees require that vendors submit certification documentation for all major weatherization materials such as insulation and storm windows. Bid and contract documents are reviewed by DNR/EC.

2. Materials Purchasing Standards

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Standards for competitive bidding are detailed in the WX Program Operation Manual; Procurement Section. Essentially, a Subgrantee must accept the lowest responsible bid which meets bid specifications.

C. On-Site or Local Controls

1. Responsibility for Post-Work Inspections

DNR/EC monitoring staff reviews the organizational structure of each Subgrantee to insure segregation of duties. In the case of small agencies which employ not more than three WAP staff, DNR/EC will allow the same person who performs the initial inspection to perform the final inspection. However, at least 5% of all final inspections must be double checked by the WAP Director or another independent person.

2. Accuracy of Work Orders and Inspections

The Subgrantee final inspectors are required to assure that proper work priorities were followed and that the work has been properly performed. DNR/EC monitoring staff will review the process. A Subgrantee having problems will first be provided more technical assistance. Continued problems will result in further steps beginning with disqualification of Subgrantee inspectors and ending with the subgrantee loss of DNR/EC funding. DNR/EC will implement this provision to emphasize the importance of completing work in a cost-effective and quality manner.

V. MONITORING REPORTS

DNR/EC will report progress to USDOE using several methods:

A. Submitting a Quarterly Report

The quarterly report documents the following:

- Number and types of monitoring visits scheduled and completed.
- Significant findings.
- Findings status.
- Significant corrective actions.
- Current management issues.
- Assistance needs.

B. Submitting an Annual Summary Report

An annual summary report will be provided to USDOE giving an overview of the year end and the status of activities that were planned.

III.6.4 Training and Technical Assistance Approach

The goals of the Missouri Low-Income Weatherization Assistance Program are to provide effective management of federal, state and local funding; continuation of improved weatherization services, increased energy efficient housing, long-term reduction in utility bills and comfort and safety of those served.

Training and Technical Assistance is an essential strategy to meet the goals of the Missouri Low-Income Weatherization Assistance Program. The following details training activities.

A. Assessment of training needs for local weatherization agencies:

Monitoring oversight and agency reporting are indicators of local agency productivity and quality of weatherization retrofit. Training needs are identified through this oversight.

Personnel inventories and surveys are used to determine the type of training required and the best means of providing instruction. Inventory and analysis of agency personnel, equipment, advanced technologies and protocols are used to determine the status of each agency's efforts in implementing new technologies; identifying agencies that are available to

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assist others in implementing new or advanced technologies.

Training and Technical Assistance meetings with the weatherization director's Professional Alliance group and their Technical Work Group.

B. Productivity of agencies and development of T&TA activities and priorities:

Monitoring oversight and agency reporting are indicators of local agency productivity and quality of weatherization retrofit. Advanced energy audit procedures (NEAT) are used for single-family dwelling units. Advanced energy audits approved by the U.S. DOE and the Missouri Energy Center are used for multi-family dwelling units. A minimum savings-to-investment ratio of 1.0 is used as a threshold for the application of weatherization measures.

Inventory and analysis of agency personnel, equipment, advanced technologies and protocols are used in a variety of ways including:

- Determining the status of each agency's efforts in implementing new technologies
- Identifying agencies that are available to assist others in implementing new or advanced technologies
- Development of priorities within annual training plans.

See Annual File, section 11.6 for additional information.

III.6.5 Energy Crisis Plan